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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,819	01/22/2004	Rahmi Hezar	TI-36621	6200

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EXAMINER	
NGUYEN, KHAI M	

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/762,819	HEZAR ET AL.	
	Examiner	Art Unit	
	Khai M. Nguyen	2819	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 19-24, 29-30, and 32* is/are rejected.

7)☒ Claim(s) *9-18,25-28 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/22/04 & 3/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8, 19-24, 29-30, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Olson et al. (US 6,791,404 B1).

Regarding claim 1, Olson et al. discloses an amplifier circuit (Figs. 2B and 3) using sigma delta (212) modulator, comprising:

a switching system (216) comprising at least one switching device to selectively provide power to a load (218) according to a quantized output (214); and

a driver system (208/212) coupled with the switching system, the driver system receiving a system analog input (203, column 3, line 15) and providing the quantized output to the switching system, the driver system comprising:

a passive circuit comprising:

a quantizer/comparator (104) (column 4, line 39) coupled with the switching system, the quantizer providing a quantized output representative of a quantizer input signal (210), and

a passive filter (102) (Olson et al. used the term 'Noise Shaping Network') coupled with the quantizer (104), the passive filter providing the quantizer input signal according to a passive filter input (210) and a feedback signal (to the mixer 106) from the switching system, and

an active filter (208), the active filter providing the passive filter input according to a difference between a system analog input and the feedback signal and according to a gain factor (column 1, lines 9-13).

Regarding claim 2, Olson et al. discloses the switching system comprises an h-bridge circuit (216 – see Figs. 2B and 9) coupled to the driver system (of claim 1), first and second power supply voltages (Fig. 9), and the load (218).

Regarding claims 3, 5-7, and 20, Olson et al. discloses the apparatus of claims 1-2 including a logic circuit (316/308) coupled to the driver system and h-bridge circuit for providing switching signals to the h-bridge circuit (Fig. 9) according to the quantized output signal.

Regarding claims 4, 8, and 19, Olson et al. discloses the quantized output is a two-level signal having two possible stages (column 3, lines 33-35).

Regarding claim 21, Olson et al. discloses the apparatus of claim 1, comprising a digital delta-sigma modulator (212) providing a two-level system analog input to the driver (column 3, lines 33-35).

Regarding claim 22, Olson et al. discloses an amplifier driver system (Figs. 2B and 3) for providing a quantized output (214) to a load (218) switching system according to a system analog input (203), the driver system comprising: a passive circuit (212) comprising: a quantizer/comparator (104) provding a quantized output (214) representative of a quantizer input signal, and a passive filter (102 – Olson et al. used the term 'Noise Shaping Network') coupled with the quantizer/comparator (104), the passive filter providing the quantizer input signal according to a passive filter input (210) and a feedback signal (214), and an active filter (208), the active filter providing the passive filter input according to a difference between a system analog input (203) and the feedback signal (214) and according to a gain factor (column 1, lines 9-13).

Regarding claim 23, Olson et al. discloses the apparatus of claim 22, comprising a digital delta-sigma modulator (212) providing a two-level system analog input to the driver (column 3, lines 33-35).

Regarding claim 24, Olson et al. discloses the quantized output is a two-level signal having two possible stages (column 3, lines 33-35).

Regarding claim 29, Olson et al. discloses an amplifier for driving a load according to a system analog input (203), the amplifier (Figs. 2B and 3) comprising: a

passive delta-sigma modulator (212) comprising: a passive filter (Olson et al. used the term 'Noise Shaping Network') for providing a first filtered signal according an input (210) and a feedback signal (214), a quantizer/comparator (104) coupled to the filter (102) and providing a quantized output according to a first filtered signal (output signal from 102), and a switching system (216) coupled to the filter and the quantizer (104), the switching system selectively (Fig. 9) providing power to a load (218) according to the quantized output and providing a feedback signal (214) to the filter (102); and a gain amplifier (the title, line 3 and column 1, lines 9-13) in a feedback loop around the modulator (212).

Regarding claim 30, Olson et al. discloses the amplifier of claim 29 including a second filter (208) in the feedback loop.

Regarding claim 32, Olson et al. discloses a digital delta-sigma modulator (212) providing a two-level system analog input to the amplifier (column 3, lines 33-35).

3. Claims 9-18, 25-28, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclose (see the attached PTO-892).

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 8:30 to 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KN
May 4, 2005

Michael J. Tokar

Michael Tokar
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